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Gad Talmon

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SPILMAN THOMAS & BATTLE PLLC  
C/O INTELLEVATE  
P.O. BOX 52050  
MINNEAPOLIS, MN 55402

EXAMINER

TORRENTE, RICHARD T

ART UNIT

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2621

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/501,949	<b>Applicant(s)</b> TALMON ET AL.	
	<b>Examiner</b> RICHARD TORRENTE	<b>Art Unit</b> 2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 13 November 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-27,30-47 and 49-61 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-27, 30-47 and 49-61 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 July 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/13/08 has been entered.

### ***Drawings***

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the claims 1, 15, 32 and 46 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered. For examples, Examiner suggests a flow chart including the elements transmitting "features" from camera, "threshold", "event detection" at the server, etc. or to show the key elements in fig. 1.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure

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is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: Method and System for Effectively Performing Event Detection with Features of Image Sequences.

### ***Claim Objections***

4. Claim 31 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 31 described a method that is dependent on a system.

5. Claim 1 is objected to because of the following informalities: Step "e)" is repeated twice and step "g)" is skipped. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claim(s) 1, 15, 32 and 46 is/are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The phrase "such as" renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1, 2, 4-10, 13-23, 26, 27, 30-47 and 49-61 are rejected under 35 U.S.C. 103(a) as being unpatentable over Meyer et al. (NPL: A New System for Video-Based Detection of Moving Objects and its Integration into Digital Networks, 1996, hereinafter "Meyer") (IDS) in view of Lipton et al. (US 2005/0146605).

Regarding claim 1, Meyer discloses a system and method for performing event detection and object tracking in image streams (see introduction, page 105) wherein an event is defined as the occurrence of a type of activity which requires some type of action in response thereto (see bullet item 4 in conclusion in page 110), such as the attention of an operator, said method, comprising: a) installing in field, a set of image acquisition devices (see camera in fig. 7), each of which comprising a local programmable processor (see detection in fig. 7, where it is inherent that a processor is needed to process detection in images) for converting the acquired image stream, consisting of one or more images (see second paragraph, section II, page 108), to a digital format (see coder in fig. 7, although not shown, it is inherent that a, A/D converter is needed prior to encoding of the coder), and a local encoder (see coder in fig. 7), for generating, from said image stream, features (see third paragraph, section II, page 108), being parameters related to attributes of objects in said image stream, and for transmitting a feature stream (see third paragraph of abstract for object oriented statistical multi-features and transmission in page 105) containing said features; b) connecting each image acquisition device (see camera of fig. 7) to a data network (see network of fig. 7) through a corresponding data communication channel (e.g. corresponding channel of fig. 8); c) connecting an image processing server (computer of fig. 7) to said data network (see network connection in fig. 7); d) prior to detecting said event, transmitting said feature stream from said image acquisition devices to said image processing server whenever at least one of a number and type of said features

(see paragraph above section III in page 106, where the "displacement" value is considered the number) exceed a predetermined threshold (see paragraph above section III in page 106 for threshold); e) wherein said threshold is applied to said image acquisition device to control when said local encoder generates and transmits said feature stream (see paragraph above section III in page 106 for threshold), and said number and type of features exceeding, said threshold are indicative of activity to be further analyzed by said image processing server (see paragraph above section III in page 106 for threshold); e) determining; said threshold by said image processing server (see fig. 7, where it is inherent that the predetermine threshold is established at the computer since the input device computer and operator is stationed at the surveillance center), and; h) transmitting, by said image processing server, said indications (display) regarding said event in said image streams to an operator (see monitor for operator viewing in fig. 7)

Meyer does not disclose f) detecting said event from analyzing said feature stream by said image processing server.

In the same field of endeavor, Lipton discloses f) detecting said event (see 44 of fig. 4) from analyzing said feature stream (see 42 of fig. 4) by said image processing server (see 11 of fig. 1).

Given the teachings as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate Lipton teachings of event extraction into Meyer moving object detection for the benefit of reducing the

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amount of video surveillance data so event detection of the video data can be conducted with less processing time.

Regarding claims 2, 16 and 47, Meyer further discloses in which the local encoder is a composite encoder (see coder in fig. 7), being the local encoder that further comprises circuitry for compressing the image stream, and further comprising: a) operating said composite encoder in a first mode (see alarm event in third paragraph, page 109. Although not mentioned, it is anticipated that an alarm events only occurs if the camera is in the alarm monitoring mode. Thus the first mode is the alarm monitoring mode), during which it generates and transmits said feature stream to said image processing server (see third bullet item in conclusion in page 110), and b) operating said composite encoder in a second mode (see fourth bullet item in conclusion in page 110, where the second mode is the request mode) responsive to detecting said events, during which it transmits to said image processing server, in addition to said feature stream, at least a portion of said image stream (see any portion of the image stream can be requested in fig. 8) in a desired compression level, according to commands sent from said image processing server (see fourth bullet item in conclusion in page 110).

Regarding claims 4, 17, 33, 34 and 49, Meyer further teaches the method further comprising decoding one or more compressed image streams containing events by said server, and transmitting the decoded image streams to the display of an operator, for viewing (see surveillance center monitor in fig. 7, where it is anticipated that decoding is performed on the transmitted encoded data streams to enable viewing on the monitor).



Regarding claims 5, 18, 39 and 54, Meyer further teaches the method further comprising recording (storage of images) one or more compressed image streams obtained while said local encoder operates in said second mode (see first P of page 109)

Regarding claims 6, 19 and 55, Meyer further teaches the method further comprising dynamically allocating additional image processing resources, in the server, to data communication channels that receive image streams (see allocating in fig. 7 compared to fig. 6, this means the server can allocate additional image processing resources to all the data communication channels).

Regarding claims 7, 20, 40 and 56, Meyer further discloses wherein one or more feature streams transmitted by said local encoder operating in the first mode, comprises only a portion of the image (see alarm event in the third paragraph of page 109, where a feature describing an image is a portion of the image).

Regarding claims 8, 21, 41 and 57, Meyer further teaches the method further comprising generating and displaying a graphical polygon that encompasses an object of interest, being within the frame of an image or an AOI in said image (see fig. 3).

Regarding claims 9, 22, 42 and 58, Meyer further teaches the method further comprising generating and displaying a graphical trace indicating the history of movement of an object of interest, being within the frame of an image or an AOI in said image (see fig. 10).

Regarding claims 10, 23, 43 and 59, Meyer further teaches the method wherein the image stream is selected from the group of images that comprises video streams, still images, computer generated images, and pre-recorded digital or analog video data (only one group of the Markush group will be shown, see video sequences in abstract in page 105).

Regarding claims 13, 26, 44 and 60, Meyer further discloses wherein the features are at least one of: motion features; color, portion of the image; edge data; and frequency related information (see motion features in the third paragraph under section II in page 105).

Regarding claims 14, 27, 45 and 61, Meyer further discloses comprising performing, by the server, at least one of: License Plate Recognition (LPR); Facial Recognition (FR); detection of traffic rules violations; behavior recognition; fire detection; traffic flow detection; smoke detection, using a feature stream, received from the local encoder of at least one image acquisition device, through its data

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communication channel (see behavior recognition in fig. 10, where the behavioral movement is recognized and displayed by the computer).

Regarding claims 15, 32, 35, 36, 38, 46, 50, 51 and 53, the claim(s) recite analogous limitations to claim 1, and is/are therefore rejected on the same premise.

Regarding claims 30, 31, 37 and 52, Meyer further discloses wherein said features further comprise motion features (see section II, third paragraph, page 105), and said motion features are encoded in said feature stream only when said motion features exceed said predetermined threshold (see paragraph above section III, page 106).

10. Claims 11 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Meyer et al. (NPL A New System for Video-Based Detection of Moving Objects and its Integration into Digital Networks, hereinafter "Meyer") (IDS) in view of Lipton et al. (US 2005/0146605), and further in view of Wang et al. (US PN 6,266,369 B1).

Regarding claims 11 and 24, Meyer and Lipton do not teach wherein the image streams are video streams, compressed using MPEG format.

Wang, solving the same bandwidth reduction, teaches utilizing an MPEG video compression format for the benefit of bandwidth reduction (see column 3, lines 1-15).

Given the teaching, it would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the MPEG video compression format for the benefit of reduced bandwidth.

11. Claims 12 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Meyer et al. (NPL A New System for Video-Based Detection of Moving Objects and its Integration into Digital Networks, hereinafter "Meyer") (IDS) in view of Lipton et al. (US 2005/0146605), and further in view of Seeley et al (US PN 6,069,655).

Regarding claims 12 and 25, Meyer and Lipton do not teach wherein during each mode, the encoder uses different resolution and frame rate.

Seeley, in the same field on endeavor, teaches using different resolution and frame rate for different mode for the benefit of reduced bandwidth in transmission of no alarm (see resolution mode in fig. 8A and 8B, frame rate mode in fig. 9, and column 4, lines 40-51, where it is interpreted as the resolution and frame rate of videos are transferred at regular setting, upon alarming, high frame rate and high resolution are transferred).

Given the teaching, it would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the different resolution and frame rate feature for the benefit of reduced bandwidth in transmission when there is no alarm.

***Response to Arguments***

12. Applicant's arguments with respect to claims 1, 15, 32 and 46 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RICHARD TORRENTE whose telephone number is (571) 270-3702. The examiner can normally be reached on M-F: 7:30 - 5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on (571) 272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Young Lee/

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Primary Examiner, Art Unit 2621

RT

/Richard Torrente/

Examiner, Art Unit 2621